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ABSTRACT

This research investigated the effects of homework completion on test scores for 401 undergraduate students, 94 percent African American, at an urban university in 2 levels of introductory Spanish, all with the same instructor. Five to six teacher-generated exams were administered during the course; the lowest test score for each student was discarded. Fairly consistent bell curves were noted for almost every class on virtually every test. Homework consisted of lengthy workbook assignments of 8-11 pages due the day of the chapter exam and short daily assignments of approximately one page; homework was reviewed at the beginning of each class. Although the text was changed four times, median test scores changed little with the different texts. Results indicate statistically significant correlations between homework completion rates and test scores based on class level. A strong correlation was found in the 101-level classes to support Keith's (1988, 1992) research suggesting a stronger correlation between achievement and homework for African Americans, although the reverse was noted in 102-level classes. (Contains 11 references.) (NAV)

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EFFECTS OF HOMEWORK COMPLETION ON TEST SCORES IN INTRODUCTORY SPANISH COURSES

John R. Brender

College educators have traditionally assumed a high degree of academic preparation and discipline of their students. For this reason, many course grades have been centered upon only a few tests or papers. Assigned readings and homework, it has been assumed, should naturally be completed in order to fare well in a class. Further proof of students doing out-of class assignments may seem irrelevant, superfluous, or even insulting. For such reasons, many college educators have seldom, if ever, required students to hand in or even write out regularly scheduled assignments.

As a larger, more diverse and less-academically prepared population continues to create a market for higher learning, many less-competitive institutions are compelled to change traditional assumptions about their students and find more effective ways to educate them. Requiring frequent, written homework assignments is one highly regarded idea to encourage student accountability.

The decision to make students accountable for regularly assigned homework could prove an invaluable part of an instructor's course requirements at a level in which little accountability has been the norm. Studies in this area could ultimately benefit a great number of students and college instructors in not only foreign languages, but other disciplines as well. The fact that assigning homework adds little if any expense to an institution's budget should be an especially attractive proposition for administrators.

While a plethora of studies have been done on the effect of homework on achievement, little if any attention has been paid specifically to the degree of significance it has had on students in introductory foreign language classes at universities with liberal admissions. To be sure, studies regarding the effect of homework on achievement have taken the position of both extremes and just about every place in between. Furthermore, research in this area has suggested that the correlation between homework and achievement has been more significant for some groups (based on age and race) than for others. Much of the existing literature, however, seems to suggest its importance, perhaps more for the group in question than for any other (Keith, 1988).

Homework in this study is defined as any assignment completed outside of the class in which it was administered. Homework completion is defined as the percentage of homework fully completed and returned to the instructor. Full credit was awarded for

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homework completed and returned on its specified due date. Two-thirds credit was awarded for completed homework handed in after its deadline.

Achievement in this study is defined as the average percentage on five to six teacher-made exams administered over the span of a given college semester. The lowest score was dropped, and extra credit was added based on tokens received for class participation. Extra credit seldom amounted to more than a 3% increase in average test scores. Tests were scored on a straight scale with 90% needed for an "A", 80% for a "B" and so on.

Liberal admissions in this paper is meant to include institutions whose minimum requirements for admission demand no more than a high school grade-point average of 2.0/4.0 or successful completion of the GED, and an ACT score of no more than 17. Community and city colleges would generally fall into this category, as well as many less competitive colleges and universities.

There are many arguments both for and against homework. Connors (1991) concisely lists several ideas that support as well as reject its validity. Advocates of regularly assigned homework claim that it teaches students how to organize their time while promoting responsibility, independence, and decision-making skills. Such advocates claim that homework promotes creativity through extension and creative-oriented assignments, and teaches students "how to learn". Some insist that homework motivates students, promotes learning and helps improve grades.

Homework is widely believed to encourage positive school-home communication as well as better communication within families. At the very least, many will concede that it is a more worthwhile endeavor than television, video games or other common after- school activities.

Most of the arguments against homework stem from the intrusion it makes on the lives of students and their families. Since many families have active agendas which they believe to be more beneficial than the extension of school work, homework may be viewed as a nuisance to the student as well as to the entire family. Such opponents may further argue that such demands cause unwarranted stress and may actually cause negative reactions toward school.

Other criticisms are focused on the content of the homework itself. Because a good deal of assignments are seen as unplanned, irrelevant or not commented on by the teacher, many opponents believe that homework should be eliminated altogether. Other egalitarian- minded individuals recognize that certain disadvantaged students do not have access to an environment that is conducive to doing homework and therefore fall further behind those who do. Fearing the effects of further polarization, such opponents call for the elimination of homework despite their recognition of its potential validity.

Loewer (1989) studied the correlation between administering "pop quizzes" and the frequency of attempting homework in a relatively affluent, mostly white high school north of Houston, Texas. A very small, but statistically insignificant correlation was found.

Rochlin and Weislogel (1990) evaluated 75 students enrolled in psychology classes at two Maryland community colleges. Seeking to determine a correlation between rates of reading and test performance, they found no statistical differences between the two; students were equally successful whether they completed the assigned readings or not. Rochlin and Weislogel further concluded that there was also no difference based on the selection of texts or on the times the classes were scheduled.

In a study done on sixth graders in an Israeli school, Chen and Ehrenberg (1993) concluded that students with higher aspirations were most likely to prepare and invest in their homework, and consequently receive higher grades as well as higher standardized achievement scores. They did note, however, that homework had a more direct effect on grades than on standardized achievement, largely due to the emphasis teachers placed on homework in determining grades.

In his book *The Battle over Homework*, Cooper (1994) concluded from several studies that while the effects of homework are seen as negligible for elementary school students, for high school students they can be much more impressive. Slightly greater gains were seen in science and social studies than in math, with English and reading falling somewhere in between. Furthermore, Cooper concluded, frequency of homework was viewed as more effective than the duration of homework. This was especially true for learning disabled students who generally required frequent reinforcement of the ideas, tasks and concepts taught in class.

Brookhart (1995) studied over 3000 students each in grades seven and ten over a four year period and found that homework in math and science classes that was routinely graded actually caused a negative effect in achievement. Conversely, the number of hours of homework assigned and the percent of students completing homework on time had positive effects when they appeared.

Fishbein (1990) & others conducted a study which sought to determine the extent to which previous knowledge, on-going motivation and current social support influenced achievement in an introductory college statistics course. While the study involved only 30 students, Fishbein concluded that students with previous mathematical ability showed the greatest motivation, were more likely to attend class regularly, spent less time doing homework and worked more quickly and accurately than students with low ability. The pretest and homework performance accounted for 64% of the variance in examination scores.

In their studies of high school students between 1980 and 1982, Keith and Cool (1988) concluded that intellectual ability had the single highest effect on achievement. Their research showed little overall effect of homework on achievement, but did suggest varying effects of coursework on academic performance based on race. Although viewed as nonmeaningful for white and native American students, homework was seen in this study as a particularly powerful influence on the achievement of Black students and students of Asian descent.

In a later study, Keith and Benson (1992) investigated the effects of five variables (including homework) on high school grades across five ethnic groups. Their findings showed even greater differences across ethnic groups when grades were used instead of achievement as the learning criterion. Again, potentially manipulable variables showed greater importance for Asian-American students than for any other group. The correlation between time spent on homework and high school grades led to small, yet significant improvements for other groups, with African-Americans a somewhat distant second, followed by Whites, Hispanics and finally Native Americans who actually showed a negative correlation. Keith and Benson cautioned, however, that their pool of Native Americans was probably too small to warrant special concern.

In sum, the research on the effect of homework on achievement appeared to be somewhat favorable, more so for older students than for younger (Cooper, 1994) and significantly more for Black and Asian students than for Whites, Hispanics and Native Americans (Keith & Cool, 1988, 1992). Undoubtedly intellectual ability and previous knowledge of subject matter have a somewhat more powerful influence on achievement than homework completion or accuracy (Keith 1988, Fishbein, 1990), but these are, of course, non-manipulable variables. Given that the population in this study was fully comprised of students 17 years and older, 94.0% of whom were African American, a significant correlation should be deduced regarding the effectiveness of regular take-home assignments. Cooper (1994) also mentioned that the frequency of homework assignments ranked as much more important than their duration while Brookhart (1995) suggested that homework completion had a positive effect on achievement even though regularly corrected homework affected achievement negatively. Since relatively brief assignments were administered at the end of virtually every class and grading was based solely on completion and punctuality, compliance to all of these theories has been (though perhaps inadvertently) optimum.

Procedures

The population in this study included 401 undergraduate students at an urban university with an undergraduate population of approximately 10,000. These students were enrolled in elementary Spanish courses between January, 1993, and May, 1995. Of this number, 307 were matriculated in first- semester Spanish and 94 were enrolled in second semester Spanish.

Of the 401 total students, 94.0% were African American (Blacks raised primarily in the United States) while 6.0% were listed as belonging to other groups including White, Hispanic, Haitian or African (raised outside the United States). 73.3% were female and 26.7% were male.

Of the 401 students, 76.6% were registered in first-semester Spanish while 23.4% were registered for second-semester Spanish.

Of the 307 first-semester students, 72.3% were female and 27.7% were male. 95.1% were African American while 4.9% belonged to other groups.

Of the 94 second-semester students 76.6% were female while 23.4% were male. 90.4% were African American and 9.6% belonged to other groups.

A cluster sample was chosen for this study. Sixteen first-semester courses consisting of 307 students and five second-semester courses comprised of 94 students were used. All courses were conducted by the same instructor at Chicago State University during fall and spring semesters between January, 1993 and December, 1995.

Five to six teacher-made exams were administered during each semester. Extra-credit points were added in based on tokens received for class participation (seldom bolstering averages by more than 3%) while the lowest test score was discarded for each student. Test averages were then determined on a percentage basis with 90% required for an "A", 80% required for a "B", 70% required for a "C" and so on. All exams were graded on a straight scale. Fairly consistent bell curves were noted for almost every class on virtually every test.

Homework was separated into two categories: lengthy workbook assignments of between eight and eleven pages which were due the day of their corresponding chapter exams and short daily assignments of approximately one page which were collected on a random basis.

Short assignments were administered after virtually every class. Homework was reviewed at the beginning of each class and students were asked to check their own assignments. Daily homework, when collected, was awarded three points for being completed and on time. Two points were awarded for homework that was completed after its deadline.

Over the six semesters spanned in this study, the text was changed four times, causing slight changes in the order of the material presented as well as the testing. If we compare the first three semesters in which different texts were used (the third and fourth editions of Dicho y Hecho and the second edition of Arriba!) with the last three semsters in which the

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fourth edition of Poco a Poco was used, we can see in table 1 that there was very little difference in median test scores or in the standard deviation in either Spanish 101 or 102 classes. This should be an indication of rather strong test validity.

TABLE 1: CORRELATION BETWEEN TEST SCORES AND HOMEWORK COMPLETION RATES BY TEXT

N	T	S.D.	HW	S.D.	r	r2	SIG
122	84.0	11.5	73.4	22.2	0.29	0.08	0.01
185	83.2	12.4	72.2	22.6	0.39	0.15	0.001
43	80.3	11.4	77.6	18.6	0.36	0.13	0.01
51	77.2	13.7	75.1	14.6	0.20	0.04	NS

N= Number of Students
T= Test mean
S.D. = Standard Deviation
HW = Homework completion rate
r = Pearson r
r2 = Pearson r squared
SIG= statistical significance
NS= not significant at .05

The findings were then tabulated in terms of means and standard deviations. The Pearson Product-Moment Coefficient test was employed at the .05 level of confidence to determine the statistical significance of the findings. Crosstabs were used to display overall results by course level and to further subdivide these levels on the basis of ethnicity (African American vs. non-African American).

The single-group pretest-posttest design was used.

Results

Table 2 indicates some statistically significant correlations between homework completion rates and test scores based on class level. In the 101 classes, this significance was established at the .001 level while in Spanish 102 classes, the correlation was significant at the .01 rate.

It is interesting to note the difference in standard deviations as regards homework (22.4 in 101 vs. 16.6 in 102). This may be largely due to the fact that many students who enter first semester Spanish are either comparatively less disciplined regarding their study habits or have had a significant enough background in Spanish that homework is of little consequence to their achievement on exams. In the 101 courses, a number of students tended to have exceptionally low homework scores. A few students literally did no homework at all!

The degree of difficulty between the two courses, based on personal observation, is significant and can be seen in the difference between median test scores (83.5% vs. 78.62%). The median homework score in 102 classes, however, was higher than the median homework score in 101 classes (76.2% vs. 72.7%), suggesting that more homework needed to be done to achieve higher test scores in the higher level class. The statistical significance indicates that the reverse is true, although this may be largely attributable to the much larger number of students that was figured into the Pearson r equation.

Given the very low number of students who were not African American, no significant conclusion could be drawn from the data based on race. As regards the 101 classes, the data on table 3 seems to support Keith's research which suggested a stronger correlation between achievement and homework for African Americans. The reverse appears to be true in the 102 classes, however. Despite the vast difference in the number of subjects, it is interesting to note that both test means and homework completion rates were quite similar at their respective levels.

TABLE 2: CORRELATION BETWEEN TEST SCORES AND HOMEWORK COMPLETION RATES BY CLASS LEVEL

GROUP	N	T	S.D.	HW	S.D.	r	r2	SIG
Sp101	307	83.5	12.1	72.7	22.4	0.36	0.13	0.001
Sp102	94	78.6	12.8	76.2	16.6	0.27	0.07	0.01

TABLE 3: CORRELATION BETWEEN TEST SCORES AND HOMEWORK COMPLETION RATES BY LEVEL AND RACE

GROUP	N	T	S.D.	HW	S.D.	r	r2	SIG
Sp101 AA	292	83.3	12.0	72.8	22.5	0.36	0.13	0.001
Sp101 O	15	86.7	11.9	70.8	20.7	0.33	0.11	NS
Sp102 AA	85	78.5	12.8	75.7	16.5	0.34	0.12	0.001
Sp102 O	9	79.4	13.2	81.7	16.2	-0.37	0.14	NS

N= Number of Students
T= Test mean
S.D. = Standard Deviation
HW = Homework completion rate mean
r = Pearson r
r2= Pearson r squared
SIG= statistical significance
NS= Not significant at .05

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